



RESPONSIBLE  
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IFFO RS  
Global Standard for Responsible Supply  
of Marine Ingredients

## IFFO RS Limited

T: +44 (0) 2030 539 195  
E: Standards@iffors.com  
W: www.iffors.com

Unit C, Printworks | 22 Amelia Street  
London, SE17 3BZ | United Kingdom



# Global Standard for Responsible Supply of Marine Ingredients Fishery Assessment Methodology and Template Report V2.0



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<b>Fishery Under Assessment</b>	<b>Brill <i>Scophthalmus rhombus</i>, ICES subarea 4 and divisions 3.a, 7.d-e</b>
<b>Date</b>	<b>January 2018</b>
<b>Assessor</b>	<b>Conor Donnelly</b>

<b>Application details and summary of the assessment outcome</b>				
<b>Name: Pelagia - Killybegs</b>				
<b>Address:</b>				
<b>Country: UK &amp; Ireland</b>		<b>Zip:</b>		
<b>Tel. No.:</b>		<b>Fax. No.:</b>		
<b>Email address:</b>		<b>Applicant Code</b>		
<b>Key Contact:</b>		<b>Title:</b>		
<b>Certification Body Details</b>				
<b>Name of Certification Body:</b>		<b>SAI Global</b>		
<b>Assessor Name</b>	<b>Peer Reviewer</b>	<b>Assessment Days</b>	<b>Initial/Surveillance/Re-approval</b>	<b>Whole fish/ By-product</b>
Conor Donnelly	Jim Daly	1	Re-approval	By-product
<b>Assessment Period</b>		2017-2018		

<b>Scope Details</b>	
<b>Management Authority (Country/State)</b>	EU
<b>Main Species</b>	Brill <i>Scophthalmus rhombus</i>
<b>Fishery Location</b>	ICES subarea 4, divisions 3.a, 7.d-e
<b>Gear Type(s)</b>	Demersal otter trawl, beam trawl
<b>Outcome of Assessment</b>	
<b>Overall Outcome</b>	Pass
<b>Clauses Failed</b>	None
<b>Peer Review Evaluation</b>	Pass
<b>Recommendation</b>	Pass

<b>Assessment Determination</b>
<p>Brill in subarea 4 (the North Sea), divisions 3.a (Skagerrak and Kattegat) and 7.d-e (English Channel) are considered to form part of a single stock covering the NE Atlantic. They are fished using demersal otter and beam trawls and caught mainly as a bycatch species in fisheries for plaice and sole.</p> <p>Although they have no species specific management plan they are managed under a combined species TAC (with turbot) and several EC regulations apply to flatfish fisheries in the North Sea (e.g. effort restrictions, minimum mesh sizes). ICES provide species-specific advice for them to inform the annual TAC. As a data limited stock (DLS) ICES catch advice is based on their DLS framework. Proxy MSY reference points have been identified and fishing mortality is at, and biomass below, the respective MSY proxies, although the upper confidence intervals of fishing mortality are above Fmsy proxy.</p> <p>Brill is a species of least concern on the IUCN Red List <a href="http://www.iucnredlist.org/details/198732/1">http://www.iucnredlist.org/details/198732/1</a> (accessed 14 March 2018) and is not listed on CITES.</p> <p>Based on this information the assessor recommends approval of this by-product material against the IFFO RS standard. However there are significant areas that could be improved in management of the fishery including:</p> <ul style="list-style-type: none"> <li>• Management under a combined TAC which risks unsustainable fishing of one or other of the species and/or high-grading of the lesser value species (brill) and increased discarding of marketable but smaller size classes of brill.</li> <li>• A fishery-independent biomass index</li> <li>• Discard rates to be closely monitored.</li> <li>• A review of the fishery in light of a possible ban on electrical pulse fishing.</li> </ul>
<b>Peer Review Comments</b>
<b>Notes for On-site Auditor</b>

## Species-Specific Results

Category	Species	% landings	Outcome (Pass/Fail)	
Category A			A1	
			A2	
			A3	
			A4	
Category B				
Category C	Brill <i>Scophthalmus rhombus</i>		Pass	
Category D				

[List all Category A and B species. List approximate total % age of landings which are Category C and D species; these do not need to be individually named here]

## HOW TO COMPLETE THIS ASSESSMENT REPORT

This assessment template uses a modular approach to assessing fisheries against the IFFO RS standard.

### Whole Fish

The process for completing the template for a **whole fish** assessment is as follows:

1. **ALL ASSESSMENTS:** Complete the Species Characterisation table, to determine which categories of species are present in the fishery.
2. **ALL ASSESSMENTS:** Complete clauses M1, M2, M3: Management.
3. **IF THERE ARE CATEGORY A SPECIES IN THE FISHERY:** Complete clauses A1, A2, A3, A4 for **each** Category A species.
4. **IF THERE ARE CATEGORY B SPECIES IN THE FISHERY:** Complete the Section B risk assessment for **each** Category B species.
5. **IF THERE ARE CATEGORY C SPECIES IN THE FISHERY:** Complete clause C1 for **each** Category C species.
6. **IF THERE ARE CATEGORY D SPECIES IN THE FISHERY:** Complete Section D.
7. **ALL ASSESSMENTS:** Complete clauses F1, F2, F3: Further Impacts.

A fishery must score a pass in **all applicable clauses** before approval may be recommended. To achieve a pass in a clause, the fishery/species must meet **all** of the minimum requirements.

### By-products

The process for completing the template for **by-product raw material** is as follows:

1. **ALL ASSESSMENTS:** Complete the Species Characterisation table with the names of the by-product species and stocks under assessment. The ‘% landings’ column can be left empty; all by-products are considered as Category C and D.
2. **IF THERE ARE CATEGORY C BYPRODUCTS UNDER ASSESSMENT:** Complete clause C1 for **each** Category C by-product.
3. **IF THERE ARE CATEGORY D BYPRODUCTS UNDER ASSESSMENT:** Complete Section D.
4. **ALL OTHER SECTIONS CAN BE DELETED.** Clauses M1 - M3, F1 - F3, and Sections A and B do not need to be completed for a by-product assessment.

By-product approval is awarded on a species-by-species basis. Each by-product species scoring a pass under the appropriate section may be approved against the IFFO RS Standard.

## SPECIES CATEGORISATION

The following table should be completed as fully as the available information permits. Any species representing more than 0.1% of the annual catch should be listed, along with an estimate of the proportion of the catch each species represents. The species should then be divided into Type 1 and Type 2 as follows:

- **Type 1 Species** can be considered the ‘target’ or ‘main’ species in the fishery. They make up the bulk of annual landings and are subjected to a detailed assessment.
- **Type 2 Species** can be considered the ‘bycatch’ or ‘minor’ species in the fishery. They make up a small proportion of the annual landings and are subjected to relatively high-level assessment.

**Type 1 Species must represent 95% of the total annual catch. Type 2 Species may represent a maximum of 5% of the annual catch (see Appendix B).**

Species which make up less than 0.1% of landings do not need to be listed (NOTE: ETP species are considered separately). The table should be extended if more space is needed. Discarded species should be included when known.

The ‘stock’ column should be used to differentiate when there are multiple biological or management stocks of one species captured by the fishery. The ‘management’ column should be used to indicate whether there is an adequate management regime specifically aimed at the individual species/stock. In some cases it will be immediately clear whether there is a species-specific management regime in place (for example, if there is an annual TAC). In less clear circumstances, the rule of thumb should be that if the species meets the minimum requirements of clauses A1-A4, an adequate species-specific management regime is in place.

NOTE: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in the CITES appendices, it **cannot** be approved for use as an IFFO RS raw material. This applied to whole fish as well as by-products.

### TYPE 1 SPECIES (Representing 95% of the catch or more)

**Category A:** Species-specific management regime in place.

**Category B:** No species-specific management regime in place.

### TYPE 2 SPECIES (Representing 5% OF THE CATCH OR LESS)

**Category C:** Species-specific management regime in place.

**Category D:** No species-specific management regime in place.

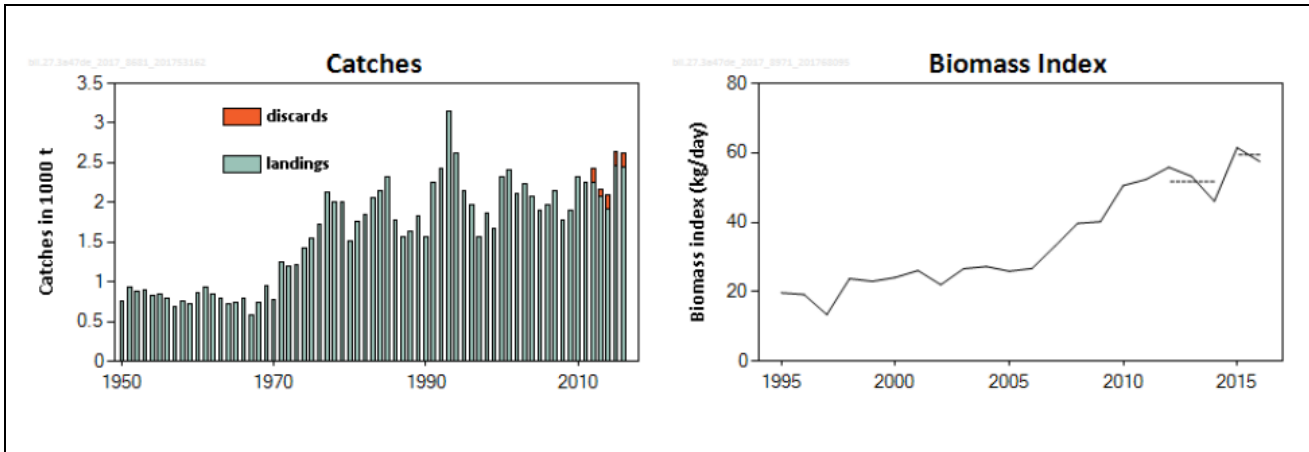
Common name	Latin name	Stock	% of landings	Management	Category
Brill	<i>Scophthalmus rhombus</i>	ICES subarea 4 and divisions 3.a, 7.d-e		Species-specific management regime: EU Common Fisheries Policy (CFP)	C

## CATEGORY C SPECIES

In a whole fish assessment, Category C species are those which make up less than 5% of landings, but which are subject to a species-specific management regime. In most cases this will be because they are a commercial target in a fishery other than the one under assessment. In a by-product assessment, Category C species are those which are subject to a species-specific management regime, and are usually targeted species in fisheries for human consumption.

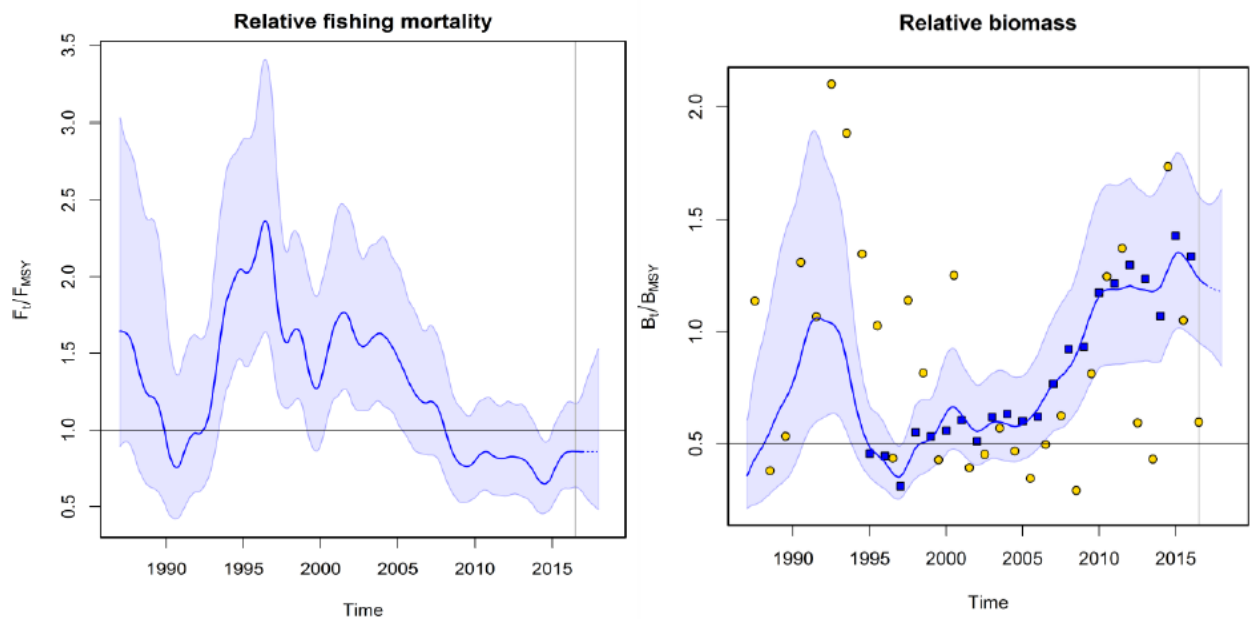
Clause C1 should be completed for **each** Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. A Category C species does not meet the minimum requirements of clause C1 should be re-assessed as a Category D species.

Species Name		
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>	
	C1.1	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible. <span style="float: right;">Pass</span>
	C1.2	The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible. <span style="float: right;">Pass</span>
		<b>Clause outcome:</b> <span style="float: right;">Pass</span>
<b>Evidence</b>		
<p>Brill in sub area 4, divisions 3.a and 7.d-e are managed under the EU's Common Fisheries Policy (CFP). It is considered to be a single stock (ICES, 2017a). Species-specific stock assessment and catch advice is provided by ICES for brill in this area (ICES, 2017b). Annual quotas are set for brill as part of a combined-species Total Allowable Catch (TAC) with Turbot (EU Council Regulation 2018/120). The TAC has not been set in line with scientific advice in recent years and combined species catches have also been higher although largely in line with the TAC (ICES, 2017b). ICES (2017b) note that Management of brill and turbot under a combined species TAC prevents effective control of the single-species exploitation rates. Further, a TAC combining two high-value species (turbot and brill) under a low TAC can in some instances lead to high-grading of the lesser-valued species (brill) or to discarding of the smaller, marketable size classes of brill. The TAC covers subarea 4 and division 2.a.</p> <p>Brill in this area is a data limited stock (DLS) and is consequently assessed using ICES framework for category 3 DLS (Method 3.1 ICES, 2012). This framework follows the general concept of survey-based catch advice based on Russell's (1931) non-equilibrium definition of overfishing, in which catch exceeds biological production and causes a reduction in the stock. Therefore, decreasing surveys suggest catch should be incrementally decreased and vice versa (ICES, 2012). Under the framework, advice is based on a comparison of the two latest index values (index A) with the three preceding values (index B), multiplied by the recent advised catch (ICES 2017b). The assessment uses a commercial biomass index (LPUE from Dutch beam trawl fleet, vessels &gt;221kW) as an indicator of stock size. ICES (2017b) note that pulse trawls now dominate the Dutch fishery, such that there are few traditional beam trawls left. This may affect catchability and selectivity of brill but the effect of these changes have yet to be quantified. Other factors affecting the quality of the assessment noted by ICES (2017b) are:</p> <ul style="list-style-type: none"> <li>• Dutch producer organizations have increased the minimum market landing size and capped the weekly landings to stay within the TAC, which has likely biased the commercial biomass index downwards for 2016.</li> <li>• The current surveys in this area are not designed for catching brill, especially large brill. A fishery-independent index covering the entire distribution area of the stock and targeting brill could improve the assessment.</li> </ul> <p>The biomass index has been gradually increasing over the time-series with moderate inter-annual variability. It has been higher in the last two years than in the three previous years (figure 1).</p>		



**Figure 1.** Brill in Subarea 4 and divisions 3.a and 7.d–e. Summary of the stock assessment. Biomass index is the standardized lpue from the Dutch beam-trawl fleet for vessels > 221 kW. Dashed lines indicate the average of the respective year ranges. Source: ICES, 2017b.

ICES have developed an approach to determine proxies for MSY reference points for stocks in category 3 which they use to assess the state of the stocks and their exploitation relative to MSY criteria. The Surplus Production in Continuous Time (SPiCT; Pedersen and Berg, 2017) analysis suggests that stock size is above, proxies of the MSY reference point. Fishing mortality is close to the Fmsy proxy with the upper confidence intervals above it (figure 2) (ICES, 2017b).



**Figure 1.** Brill in Subarea 4 and divisions 3.a and 7.d–e. SPiCT analysis showing fishing mortality relative to FMSY (left) and exploitable biomass relative to BMSY (right). The symbols in the relative biomass plot indicate observed biomass indices (blue squares = standardized lpue from the Dutch beam-trawl fleet for vessels > 221 kW that was applied as the biomass index in the assessment; yellow dots = BTS\_ISI\_Q3) while the shaded areas in both plots indicate 95% confidence intervals. The horizontal lines indicate levels relative to the FMSY and MSY Btrigger proxies. The Dutch lpue index used for the SPiCT assessment is based on a longer time-series than the one for the indicator used in the advice. Source: ICES, 2017b.

For data limited stocks an uncertainty cap (or change limit) may be applied to cap catch advice to address uncertainty or noise in the data. A precautionary buffer (or precautionary margin) may also be applied when stock status relative to reference points are unknown (ICES, 2012). Neither a precautionary buffer nor margin were applied for this advice.



Discarding is related to the size of the fish and the size of the TAC. Subsequently, since there is a low TAC, producer organizations have agreements on minimum landing size/weight at the national level, which has likely resulted in increased discarding (7.2% over the period 2014-2016). The assessment uses a commercial biomass index that is solely based on landings; as a result the index and the advice may be affected by the increased discarding (ICES 2017b).

ICES advice on catch limits for 2018-2020 is based on no change in discard rates in the fishery. Discard rates should be monitored closely to ensure no change takes place. Any observed increase in discard rates would also alert authorities to possible high-grading. Amendments proposed by European Parliament (Jan 2018) may in future ban the use of electrical pulse fishing for the EU fleet. This will affect the Dutch beam-trawl fishery for brill.

### References

EU Council Regulation 2018/120 of 23 January 2018 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, and amending Regulation (EU) 2017/127.

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R0120&qid=1519054662690&from=EN>

ICES, 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM 68. 42 pp.

ICES, 2016. ICES Advice Basis. February 2016.

[http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/Introduction\\_to\\_advice\\_2016.pdf](http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/Introduction_to_advice_2016.pdf)

ICES, 2017a. ICES WGNSSK REPORT 2017. Section 3: Brill in Subarea 27.4, Divisions 3.a, 27.7.d and 27.7.e.

<http://ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2017/WGNSSK/05%20WGNSSK%20Report-Section%2003%20Brill%20in%204%203a%20and%207.pdf>

ICES, 2017b. ICES Advice on fishing opportunities, catch, and effort Celtic Seas and Greater North Sea Ecoregions. Brill (*Scophthalmus rhombus*) in Subarea 4 and divisions 3.a and 7.d–e (North Sea, Skagerrak and Kattegat, English Channel). Published 30 June 2017. DOI: 10.17895/ices.pub.3058

<http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/bl.27.3a47de.pdf>

*Standard clauses 1.3.2.2*

## SOCIAL CRITERION

In addition to the scored criteria listed above, applicants must commit to ensuring that vessels operating in the fishery adhere to internationally recognised guidance on human rights. They must also commit to ensuring there is no use of enforced or unpaid labour in the fleet(s) operating upon the resource.

## Appendix A - Determining Resilience Ratings

The assessment of Category B species described in this assessment report template utilises a resilience rating system suggested by the American Fisheries Society. This approach was chosen because it is also used by FishBase, and so the resilience ratings for many thousands of species are freely available online. As described by FishBase, the following is the process used to arrive at the resilience ratings:

*“The American Fisheries Society (AFS) has suggested values for several biological parameters that allow classification of a fish population or species into categories of high, medium, low and very low resilience or productivity (Musick 1999). If no reliable estimate of  $r_m$  (see below) is available, the assignment is to the lowest category for which any of the available parameters fits. For each of these categories, AFS has suggested thresholds for decline over the longer of 10 years or three generations. If an observed decline measured in biomass or numbers of mature individuals exceeds the indicated threshold value, the population or species is considered vulnerable to extinction unless explicitly shown otherwise. If one sex strongly limits the reproductive capacity of the species or population, then only the decline in the limiting sex should be considered. We decided to restrict the automatic assignment of resilience categories in the Key Facts page to values of  $K$ ,  $t_m$  and  $t_{max}$  and those records of fecundity estimates that referred to minimum number of eggs or pups per female per year, assuming that these were equivalent to average fecundity at first maturity (Musick 1999). Note that many small fishes may spawn several times per year (we exclude these for the time being) and large live bearers such as the coelacanth may have gestation periods of more than one year (we corrected fecundity estimates for those cases reported in the literature). Also, we excluded resilience estimates based on  $r_m$  (see below) as we are not yet confident with the reliability of the current method for estimating  $r_m$ . If users have independent  $r_m$  or fecundity estimates, they can refer to Table 1 for using this information.”*

Parameter	High	Medium	Low	Very low
Threshold	0.99	0.95	0.85	0.70
$r_{max}$ (1/year)	> 0.5	0.16 – 0.50	0.05 – 0.15	< 0.05
$K$ (1/year)	> 0.3	0.16 – 0.30	0.05 – 0.15	< 0.05
Fecundity (1/year)	> 10,000	100 – 1000	10 – 100	< 10
$t_m$ (years)	< 1	2 – 4	5 – 10	> 10
$t_{max}$ (years)	1 - 3	4 – 10	11 – 30	> 30

Taken from the FishBase manual, “Estimation of Life-History Key Facts”:

<http://www.fishbase.us/manual/English/key%20facts.htm#resilience>]

## Appendix B – Background on the 5% catch rule

The proposed fishery assessment methodology uses a species categorisation approach to divide the catch in the assessment fishery into groups. These groups are:

- **Category A:** “Target” species with a species-specific management regime in place.
- **Category B:** “Target” species with no species-specific management regime in place.
- **Category C:** “Non-target” species with a species-specific management regime in place.
- **Category D:** “Non-target” species with no species-specific management regime in place

The distinction between 'target' and 'non-target' species is made to enable the assessment to consider the impact of the fishery on all the species caught regularly, without requiring a full assessment be conducted for each. Thus 'target' species are subjected to a more detailed assessment, while 'non-target' species are considered more briefly. For the purposes of the IFFO RS fishery assessment, 'target' and 'non-target' species are defined by their prevalence in the catch, by weight. Applicants must declare which species are considered 'target' species in the fishery, and the combined weight of these must be at least 95% of the annual catch. The remaining 5% can be made up of 'non-target' species. Note also that ETP species are considered separately, irrespective of their frequency of occurrence in the catch.

The proposed use of 5% as a limit for 'non-target' species is one area in which feedback is being sought via the public consultation. The decision to propose a value of 5% ensures consistency with other fishery assessment programmes, such as the MSC which uses 5% to distinguish between 'main' and 'minor' species (see MSC Standard, SA3.4 and GSA3.4.2); and Seafood Watch, which uses 5% when defining the 'main' species for the assessment (see Seafood Watch Standard, Criterion 2). The value is also consistent with the approach used in Version 1 of the IFFO RS Standard, in which up to 5% of the raw material could be comprised of 'unassessed' species.